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EXAMINER
STORM, DONALD L

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**
Office Action Summary	09/749,782	KANG ET AL.
	Examiner	**Art Unit**
	Donald L. Storm	2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _28 December 2000_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-8_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,3 and 5_ is/are rejected.

7)☒ Claim(s) _2,4 and 6-8_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _28 December 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some *   c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Specification

1.   The disclosure is objected to because of potentially confusing informalities. See

37 CFR 1.71 and MPEP 608.01. Appropriate correction is required.

     a.   The specification is objected to because the terms "LSP counts" and "LPC counts"

appear throughout (for example, page 2, line 9 and page 4, line 15), but they not defined close to

the location of first use. The term "counts" in context of LSP and LPC is so different from that

which is generally accepted in the art to which this invention pertains that the Applicant should

provide a clarification or correlation with art-accepted terminology. See 37 CFR 1.71 and

MPEP 608.01.

     The Examiner is unable to locate a generally accepted meaning of this terminology

in arts related to the instant disclosure. The rule that an Applicant can act as his own

lexicographer to specifically define terms to be other than their ordinary meaning presupposes that

the nonstandard definition is clearly detailed in the disclosure. To preclude an objection for

adding new matter to the specification, the Applicant should point out specific support in the

disclosure as filed for any added definition or provide evidence that establishes it as standard

terminology. The Applicant is advised that if a definition of the term is presented by amendment,

the definition should be from endeavors related to speech processing.

     Based on the discussions particularly at page 2 and page 4, the Examiner believes

that terminology of the art variously uses the terms "parameters", "components", and

"coefficients" where the Applicant has used "counts". While the Applicant may be his or her own

lexicographer, it is in the best interests of the patent community to use accepted terminology when

the usual meaning of a term is adequate. See 37 CFR 1.71 and MPEP 608.01. If the Applicant

has intentionally avoided use of the words "parameters", "components", and "coefficients", the Examiner asks that the Applicant explain why. This request is made because, if "coefficients" is not appropriate terminology, the Examiner may have misunderstood or overlooked critical subject matter in the instant application. The Applicant should point out specific support in the disclosure as filed for the explanation.

b.   At page 4, line 17, it is implied that a sub-vector includes a row. Throughout the disclosure, including claims, the meaning of "row" is not explicitly defined. Since a sub-vector is a one-dimensional construction, it is likely that a reader will consider the sub-vector itself as a row composed of several vector components or vector elements. Since a vector is a directed geometric construction, a vector component occupies the same position in any vector that represents the same particular quantity that is represented by another vector. Fig. 3 implies that the term "row" is being used to mean the same position in each subvector and that the "row" runs vertically when the subvectors are placed atop each other. Such an orientation would probably be labeled a "column", not a "row", by artisans. The Examiner acknowledges the necessity to find appropriate terms to describe aspects of the invention and appreciates the Applicants attempt to keep the terminology concise. Nevertheless, the Examiner believes that the term "row" conveys to artisans another meaning than the vertical construction shown in Fig. 3. The disclosure does not explicitly define "row". The rule that an Applicant can act as his own lexicographer to specifically define terms to be other than their ordinary meaning presupposes that the nonstandard definition is clearly detailed in the disclosure.

c.   At page 5, line 12, in Equation 2, does the subscript 1,m include the numeral 1 (one, unity), or is it intended to be the alphabetic letter l (ell)? This same problem occurs in

multiple lines of the specification, for example, page 5, lines 16 and 18 and at page 6, lines 19 and 20.

    d.   At page 5, line 12, in Equation 2 what does the superscript symbol T mean?

    e.   At page 6, line 5, should the symbol "LSF" be --LSP--?

    f.   At page 6, lines 19 and 20, the symbol L is not defined close to where it is first used.

    g.   At page 7, line 5, the subscript m appears the represent the final element of N elements of the reference row. The symbol m was previously used to index subvectors and the codebook of the mth indexed subvector. Does the use of "m" on page 7 imply anything about the size of a subvector, the size of a codebook, the final subvector, or the final codebook? If the "m" on page 7 is unrelated to the "m" index of the subvectors and codebook, it is confusing to use the same notation to represent different quantities.

    h.   At page 11, line 20, the symbol m_i is not defined. Is symbol m with a subscript related to symbol m without a subscript. Is the subscript i the same as the symbol "i" used in the LSP calculation at page 9, lines 17ff? Is the symbol m_i that appears here the same as the symbol m_i that is defined much later, on page 13, line 12? A symbol should be defined close to where it is first used.

    i.   At page 11, lines 16-18 describe a Vector as shown in Table 1; however, the Table 1 that appears on page 23 does not seem to have a Vector.

    j.   At page 11, lines 16-18 say that a Vector in Table 1 has 4 pulses. Only column 2 in Table 1 has 4 pulses; each pulse in Table 1 is the same i_0. Should Column 2 of Table 1 be labeled "Vector" instead of "Pulse?" Is column 2 the only Vector in Table 1? Should c(n) from Equation 6 be a label shown in Table 1?

k.   At page 11, lines 16-18 say that Table 1 has 4 pulses in a designated position. The Table 1 on page 23 does not have a designated position. Only column 2 in Table 1 has 4 pulses; each pulse in Table 1 is the same i_0. Should Column 2 of Table 1 be labeled "Designated Position" instead of "Pulse?" Is column 2 of Table 1 a "designated position"? Can 4 pulses fit in a single position or does column 2 have 4 positions?

l.   At page 12, line 11, should the word "optical" be --optimal--?

m.   At page 12, line 15, in Equation 8, what does the superscript symbol t in the numerator and denominator mean?

n.   At page 13, line 1, in Equation 9, is the symbol d the symbol to be defined, or $d(n)$? Is d related to $d(n)$. Is d or $d(n)$ somehow related to the symbol d^t?

o.   At page 13, line 3, in Equation 10, is the symbol to be defined Φ or is it $\Phi(i,j)$? Is Φ related to the symbol $\Phi(i,j)$?

p.   Does it matter that some i,j are italicized and other i,j, as in i=0 ; j=i are not italicized? Do italicized i,j represent the same thing as non-italicized i,j in Equations 9, 10, and other equations?

q.   Page 13, lines 6-10, purport to give the numerator of Equation 8; however, the numerator of Equation 8 is C_k^2, and it is not in Equation 11.

r.   At page 13, line 14, in Equation 12 and page 14, line 6, the symbol ϕ is not defined.

s.   Page 13, line 19 says that there are 40 pulses in Table 1. Table 1 has only 4 pulses; each pulse in Table 1 is the same i_0. Are there 40 pulse positions in Table 1, and are they 40 values of m_i? Is Table 1 an index? Is Table 1 the index that is searched as described at page 16, line 5?

t.   At page 15, lines 4-5 imply that the tracks represented in Table 1 have values of

d'(n). However, page 13, lines 1 and 18 define d'(n) by an object signal x'(n). No object signal

x'(n) has been related with any track.

u.   At page 15, line 18-19, values of N are 512, 60, and 90. However, at page 8, lines

15 and 13 limit N to a maximum of 8 or 9, depending on which row (that is, vector component) is

being searched.

v.   At page 15, lines 19 and 20, the symbol N_1 is not defined.

w.   At page 16, line 4 says that the tracks have values of d'(n). However, page 13,

lines 1 and 18 define d'(n) by an object signal x'(n). No object signal x'(n) has been related with

any track. There is also no x'(n) on page 18.

x.   At page 16, lines 3-6 say that the tracks have values of d'(n), there is a loop of

each track, implies that loops have d'(n) values, and says that Tables 2 and 3 have examples.

However, page 13, lines 1 and 18 define d'(n) by an object signal x'(n). No object signal x'(n) has

been related with any loop or track. Three loops have not been shown for the tracks. Page 13,

lines 5-6, say that loops determine pulses, not tracks.

y.   Page 16, line 5, describes searching an index; is the codebook, as represented by

Table 1 that index?

z.   Page 16, lines 9-10, say that a position index may be seen in Table 4. Nothing in

table 4 is labeled as a position index. How is a position index related to the symbol m_i ?

aa.   At page 16, line 14, is the symbol Ck the same as C_k of Equation 8?

bb.   Page 16, line 20 refers to Formula 17. Where is formula 17?

cc.   Page 17, line 1 refers to "their sum". It is not clear what d'(n) is being summed

here, perhaps because it has never been made clear how tracks have d'(n) values.

dd.   At page 17, line 8, is the symbol Ck the same as C_k of Equation 8?

ee.   At page 17, line 22-page 18, line 1, it is implied that sub-frames correspond to something. What they correspond to has not been described to this point of the specification.

ff.   At page 19, line 3, should the term "correlation vectors" be --correlation values--?

gg.   At page 19, line 5, should the term "correlation vector sizes" be --correlation value magnitudes--?

hh.   At page 19, line 7, should the term "correlation vectors" be --correlation values--?

ii.   At page 19, lines 11-12, should the term "correlation vector sizes" be --correlation value magnitudes--?

jj.   Page 19, lines 14-15, say Table 3 shows pulse position indexes. Nothing in table 3 is labeled as a pulse position index. How is a pulse position index related to the symbol m_i ?

kk.   Page 20, lines 9-17 describe that track 3 has a pulse position index combination of (5, 6, 32) as shown in Fig. 1. Note that track 3 is not shown in Fig. 1. However, track 3 as shown in Table 1 does not show 5, 6, or 32.

ll.   Page 21, line 19 says that Fig. 4 is a chart showing statistics. There seems to be no chart either in Fig. 4a or in Fig. 4b.

mm.   At page 22, line 9, is the symbol Ck the same as C_k of Equation 8?

nn.   The specification is objected to because it does not unambiguously teach the following claimed subject matter: tracts (claim 5). Please see the objection under Claim Informalities. The invention described by the specification should correspond to the invention claimed.

The Applicant's cooperation is requested to correct any errors of which the Applicant may become aware during normal review and revision of the disclosure.

2.   The Examiner notes, without objection, the possibility of informalities in the abstract. The

Applicant may wish to consider changes during normal review and revision of the disclosure.

The phrase "(FIG. 2)" (third paragraph) is unconnected to the subject matter. Its intent in

the abstract is unclear when not accompanied by appropriate figures.

Claim Informalities

3.   Claims 2, 4, and 6-8 are objected to as being (directly or indirectly) dependent upon a

rejected base claim. See MPEP § 608.01(n)V. The claim(s) would be allowable over the prior art

of record if rewritten to include all of the limitations of the base claim and any intervening claims.

The claims should also be rewritten to overcome any objections or rejections under

35 U.S.C. 112(2), especially as appearing in this Office action. Certain assumptions that make the

limitations clear have been considered for the claims, as described next or elsewhere in this Office

action. The allowable subject matter of these dependent claims resides in the whole structure

expressed by the combination of all limitations compared to the prior art of record. No particular

reference provides relevant, objective evidence to make the claimed method obvious by changing

the closest prior art (Aldersberg, Nakano, Yoon).

4.   Claims 1-8 are objected to under 37 CFR 1.75(a) because of the following potentially

confusing informalities.

a.   The meaning of the terms "LSP counts" and "LSP count" (claim 1) needs

clarification. These terms are so different from that which is generally accepted in the art to which

this invention pertains that the Applicant should provide a clarification or correlation with

art-accepted terminology. Please see the discussion in the section entitled Specification. While

the Applicant may be his or her own lexicographer, it is in the best interests of the patent

community to use accepted terminology when the usual meaning of a term is adequate. Based on

the discussions particularly at page 2 and page 4, the Examiner has searched and evaluated prior

art using the term "LSP parameter(s)".

       b.   Claim 1 fails to define the invention with the clarity required by 37 CFR 1.75(a).

The claim describes the step of rearranging a codebook in terms of its characteristic, purpose, or

capability. That is, the rearranging appears to have the purpose to be applied in determining the

range to search or the rearranged codevectors have the ability to be applied in determining the

range. The Applicant may wish to consider if that limitation recites the claimed subject matter as

the Applicant wants, because steps of a process should clearly recite method steps defined as

steps, and not as characteristic, purpose, or description.

       c.   The meaning of the phrase "each codebook" (claim 2, line 3) needs clarification.

Because only one codebook was previously recited, it may be unclear as to what element(s) this

phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted

this phase to refer to --a codebook--.

       d.   The meaning of the phrase "the arranged codebook" (claim 3, line 4-5) needs

clarification. Because no arranged codebook was previously recited, it may be unclear as to what

element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has

interpreted this phase to refer to --the re-arranged codebook--. The phrase "the arranged

codebook" also appears in claim 4.

       e.   The meaning of the term "row(s)" (claim 3) needs clarification. These terms

appear to be so different from that which is generally accepted in the art to which this invention

pertains that the Applicant should provide a clarification or correlation with art-accepted

terminology. Please see the discussion in the section entitled Specification. While the Applicant

may be his or her own lexicographer, it is in the best interests of the patent community to use

accepted terminology when the usual meaning of a term is adequate. Based on the discussions

particularly at page 2 and page 4, the Examiner has searched and evaluated prior art using the term

--column(s)--.

  f.   The meaning of the phrase "the below Equation 2" (claim 3) needs clarification.

Because no Equation 2 was recited, it may be unclear as to what element this phrase refers. the

scope must be interpreted when the symbols making up the claim limitations are not defined in the

claim. To further timely prosecution and evaluate prior art, the Examiner has interpreted this

phase to refer to the Equation 2 found in the specification.

  g.   The symbol "Equation 2" (claim 3) should be defined in the claims at least the first

time used, if a concise and accurate definition is available. No new matter may be introduced into

the disclosure as filed. To further timely prosecution and evaluate prior art, the Examiner has

interpreted this phase to refer to the Equation 2 found in the specification.

  h.   The scope of claim 5 cannot be determined with certainty because when the

limitation "tract(s)" is not defined with precision and definiteness. The "tract(s)" should be

discussed and defined in the disclosure. No new matter may be introduced into the disclosure as

filed. the Examiner has searched and evaluated prior art using the term --track(s)-- because tracks

are discussed in the specification and because it provides antecedence for terminology in the

dependent claims.

  i.   The meaning of the phrase "the detecting and searching processes" (claim 5) needs

clarification. Because no detecting and searching processes were previously recited, it may be

unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase to refer to --detecting and searching processes--. The phrase "the searching process" appears in claim 8.

j.   The meaning of the phrase "which has low probability" (claim 5) needs clarification. Because of the singular verb "has", it is unclear to which previously recited singular antecedent the phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --which have low probability-- to refer to the immediately preceding word "indexes".

k.   The meaning of the phrase "the pulse position indexes" (claim 6) needs clarification. Because no pulse position indexes were previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase to refer to --pulse position indexes--. Note that the phrase "each pulse position index" appears in claim 7.

l.   In claim 6, the comparing step compares correlation vectors to arranging indexes. If this is as the Applicant intended, the Examiner asks that the Applicant indicate a specific part of the specification for understanding this claim element. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as comparing --to arrange the position indexes--.

m.   The meaning of the phrase "the pulse position index combination" (claim 7) needs clarification. Because no pulse position index combination was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase to refer to --a pulse position index combination--.

n.   The meaning of the phrase "the added result" (claim 7 and claim 8) needs clarification. Because no added result was previously recited, it may be unclear as to what

element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has

interpreted this phase to refer to --an added result--.

o.   The meaning of the phrase "the search of the fixed codebook" (claim 7) needs

clarification. Because no search of the fixed codebook was previously recited, it may be unclear

as to what element this phrase refers. For example, does it refer to the search method in the fixed

codebook that is set forth in the preamble? To further timely prosecution and evaluate prior art,

the Examiner has interpreted this phase to refer to --searching the fixed codebook--.

p.   The meaning of the phrase "the threshold" (claim 8) needs clarification. Because

no threshold was previously recited, it may be unclear as to what element this phrase refers. To

further timely prosecution and evaluate prior art, the Examiner has interpreted this phase to refer

to --a threshold--.

q.   Claims 2-4 and 6-8 inherent the problems of the claims from which they depend.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Aldersberg

6.   Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Aldersberg [US Patent 4,907,276].

7.   Regarding claim 1, Aldersberg [at abstract] describes the high-speed method by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

rearranging a codebook according to an element value of a reference row [at column 2, lines 57-58, as re-ordering said codebook codevectors according to their value on the p axis];

rearranging for determining a range of code vectors to be searched and determining a search range [at column 3, lines 7-13, as determining a codebook range having codevectors for performing a search over the range];

an order character between a target vector and a code vector [at column 3, lines 1-3, as a distance value between a transform domain vector and a surface vector];

the target vector was given [at column 2, lines 64-65, as the transform domain vector provided by transforming the input vector];

the code vector was arranged [at column 2, lines 54 and 67-68, as the surface vector is on the p axis];

determining the range by using the order character to obtain an optimal code vector [at column 3, lines 7-13, as determining a codebook range having radius defined by the distance value to select the one, nearest codevector].

<u>*Nakano*</u>

8.   Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by <u>Nakano</u> [US Patent 5,194,864].

9.   Regarding claim 5, <u>Nakano</u> [at column 2, lines 17-21] describes a high speed search method in the fifth embodiment, which combines the first and fourth embodiments, by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

arranging indexes in a descending order [at column 13, lines 57-61, as rearrange indexes learned from code book vectors in order of decreasing network output amounts];

the arranged order is according to a correlation level [at column 3, lines 45-63, as learned output amounts are code book inter-vector distances when generating the network];

the indexes are position indexes of tracts (t0, t1, t2) [at Fig. 2B and column 4, line 56-column 5, line 2, as indexes i, i+1, and i+2 corresponding to code book vectors];

determining a range to search a tract t3 according to the arranged indexes [at column 5, line 47-column 6, line 4, as determine NO that no strain calculation is necessary or YES that a strain calculation from a low-degree component to the Jth-degree component is necessary for index i+3 of codebook vector Yi];

canceling detecting and searching for indexes [at column 12, lines 25-35, as the strain calculation is interrupted for the vector indicated by the index];

the canceled ones have low probability [at column 13, lines 11-15, as the search operation is interrupted with respect to decreasing probabilities].

Yoon

10.   Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Yoon et

al. [US Patent 6,622,120]. See Yoon's claim 1, third step, fourth step, and fifth step. See Yoon's

claim 2 and claim 8, with inherent computational complexity of Equations 1 and 2.

Double Patenting

11.   The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or
improper timewise extension of the "right to exclude" granted by a patent and to prevent possible
harassment by multiple assignees. See *In re Goodman,* 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir.
1993); *In re Longi,* 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum,* 686
F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel,* 422 F.2d 438, 164 USPQ 619 (CCPA 1970);
and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to
overcome an actual or provisional rejection based on a nonstatutory double patenting ground
provided the conflicting application or patent is shown to be commonly owned with this
application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12.   Claim 1 is rejected under the judicially created doctrine of obviousness-type double

patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,622,120 of Yoon et al.

Although the conflicting claims are not identical, they are not patentably distinct from each other

because a person of ordinary skill in the art would conclude that the invention defined in the

claims in issue is an obvious variation of the invention defined in the claims in the patent having

inventors who are also applicants of the instant application.

13.   Claim 1 of this application is not patentably distinct from claims 1-13 of <u>Yoon</u> because the

claim limitations are set forth including obviously similar phrases. See <u>Yoon</u>'s claim 1, third step,

fourth step, and fifth step.

However, claim 1 of this application does not explicitly include <u>Yoon</u>'s claimed first step,

second step, first substep, second sub-step, and third sub-step.

It would have been obvious to one of ordinary skill in the art of computerized speech

encoding at the time that the invention was made that claim limitations in <u>Yoon</u>'s claim differ

from those in the application only by functions that can be eliminated if the effect of the additional

functions is unneeded or undesired. If the functionality provided by the additional limitations

were not desired, it would have been obvious to eliminate it, and so achieve the advantage of

simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the

dependent claims of <u>Yoon</u> should not be included if their added functions are not desired because

their elimination would further simplify processing.

Conclusion

14.   The following references here made of record are considered pertinent to applicant's

disclosure:

Mailhot [US Patent 5,061,924] orders a codebook according to the continuity requirement of

number of elements in the code vectors to access the codevectors in an orderly manner.

Staats [US Patent 5,481,739] arranges codevectors in decreasing order of frequency of encoding or

by distances from each other.

Serizawa [US Patent 5,748,839] rearranges elements of candidate code vectors to reduce the

amount of autocorrelation or impulse response calculation.

Carl [US Patent 6,246,979] sorts pulses excitation pulse vectors such that the pulses are present in

descending position sequence.

Goubault [European Patent Application 0 505 654 A1] ordering codevectors in increasing order of

their distance to a predefined reference vector.

Paliwal, K. K., and V. Ramasubramanian, "Effect of Ordering the Codebook on the Efficiency of

the Partial Distance Search Algorithm for Vector Quantization," IEEE Trans. Commun.,

vol. 37, pp. 538-540, May 1989, orders codevectors to allow a premature exit from the

search process for an optimal codevector.

15.   Any response to this action should be mailed to:

Mail Stop Amendment

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306, (for formal communications intended for entry)

Or:

(703) 872-9306, (for informal or draft communications, and please label
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16.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is

(703) 305-3941. The examiner can normally be reached on weekdays between 8:00 AM and 4:30

PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions

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of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general

information about the PAIR system, see http://pair-direct.uspto.gov.

Donald L. Storm
Patent Examiner
Art Unit 2654

November 15, 2004